

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/012436

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. ⁷ C07D471/04, H05B33/14, 33/22		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) Int.Cl. ⁷ C07D471/04, H05B33/14, 33/22		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Published examined utility model applications of Japan 1922-1996 Published unexamined utility model applications of Japan 1971-2005 Registered utility model specifications of Japan 1996-2005 Published registered utility model applications of Japan 1994-2005		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Caplus (STN), REGISTRY (STN)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP 5-331459 A (Pioneer Electronic Corp., Japan) 1993.12.14 & EP 564224 B1 & US 5393614 A1	2, 4-8 1, 3
Y A	JP 2003-17268 A (Sharp Corporate, Japan) 2003.01.17 (no patent family member)	2, 4-8 1, 3
A	JP 2004-175691 A (Chemipro Kasei Kaisha Ltd., Japan) 2004.06.24 (no patent family member)	1-8
A	JP 2004-107263 A (Canon Inc., Japan) 2004.04.08 & WO 2004/026870 A1	1-8
A	JP 2001-131174 A (SONY CORPORATION) 2001.05.15 & EP 1097980 A2 & US 2004-265626 A	1-8
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 15.08.2005		Date of mailing of the international search report 30.8.2005
Name and mailing address of the ISA/JP Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan		Authorized officer Hiroshi WATANABE Telephone No. +81-3-3581-1101 Ext. 3492

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	JP 2005-108720 A (TDK Corporation, Japan) 2005.04.21 (no patent family member)	1-8

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

With respect to the inventions set forth in the claims, unity of invention exists only when there is a technical relationship among the inventions involving one or more of the same or corresponding special technical features. After conducting the search on the inventions set forth in the claims, it was found that the phenanthroline derivative represented by a general formula (2), which is considered as a common technical feature among all the claimed inventions, was disclosed in the document discovered in the international search report. It means that the phenanthroline derivative represented by a general formula (2) would not make any contribution over the prior art, and would not constitute a "special technical feature" defined in Rule 13.2 of the PCT.

Therefore, it is clear that the inventions set forth in the claims do not satisfy the requirements regarding unity of invention defined in the Rule of the PCT.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.☐ No protest accompanied the payment of additional search fees.